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This comprehensive overview explores the **impact of modern farming, seed oils, and industrial byproducts on metabolic health**, drawing directly from the provided transcript.

I. The Podcast and Philosophy

1. **Consumption determines identity.** What you consume—whether it is food, drugs, or ideas—influences who you become. The podcast aims to teach listeners how the mind and body react to what they are fed.
2. **Scientific translation is vital.** The host uses a PhD in neuroscience to translate complex information shared by scientific guests into understandable terms. This expertise helps bridge the gap between academic research and public health knowledge.
3. **Synthesis of research.** The host writes long-form content that integrates lessons learned across multiple podcast episodes. This approach allows for a deeper understanding of how various health factors intersect.
4. **Support for independent science.** Paid subscribers help fund the time needed for the host to synthesize literature and produce high-quality episodes. This support allows for more frequent content production without the constraints of traditional ads.
5. **Targeted health products.** Some products featured on the show are formulated by scientific guests, such as a ketone body ratio designed for kidney health. These items are intended to optimize physical, metabolic, and mental vitality.
6. **Water filtration is essential.** The host recommends high-quality filters like Aquatue to remove heavy metals and endocrine disruptors from drinking water. Standard charcoal filters often fail to remove microplastics or microbes effectively.
7. **Personal health struggles drive change.** Many people, including the guest, Ashley, only become interested in niche health topics after experiencing chronic health challenges. Ashley began researching when she suffered from extreme digestive issues and fatigue in her early 20s.
8. **The failure of the pharmaceutical model.** Personal health crises often lead individuals to look beyond standard pharmaceutical solutions to find root causes. This journey frequently leads to the discovery of traditional food systems and metabolic research.
9. **The influence of Dr. Ray Peat.** Dr. Ray Peat was a pioneer who discussed the dangers of seed oils as far back as the 1970s. His work helped Ashley realize that many modern nutritional "villains," like saturated fat, were misrepresented.
10. **Obsession with systemic change.** After finishing a PhD in engineering, Ashley decided to become a farmer to change the food system back to its traditional roots. She realized that how food is farmed impacts both the food's quality and human health.

II. The Shift to Modern Farming

11. **First-generation farming challenges.** Entering farming requires dealing with a system where most feed options are filled with corn byproducts and soybean oil. Many farmers are forced into this system by lack of available alternatives.
12. **The "Low PUFA" mission.** Nourish Food Club aims to "reaturate" the food system by intentionally lowering the polyunsaturated fatty acid (PUFA) intake of livestock. This is achieved by being very intentional about what the animals are fed.
13. **Livestock feed dictates food quality.** Changing what an animal eats can literally impact the digestibility of the final food product for the consumer. This can reduce "food fear" by providing options that do not cause digestive distress.

14. **Soy is a modern newcomer.** Soy was not a significant part of the agricultural food system 100 years ago. Its rise was made possible by chemical-based intensive agriculture and government subsidies.
15. **Subsidy-driven agriculture.** Without government funding for monocropping, the current soy-heavy food system would not be possible. These subsidies have fundamentally changed the fatty acid composition of common foods.
16. **Pasture-raised isn't always enough.** Even pasture-raised chickens often rely on conventional feed that is 70% to 90% corn and soy. While pasture access adds vitamins, the feed still dictates the primary fatty acid composition.
17. **Nutritional benefits of pasture.** True pasture access increases vitamin D exposure and allows chickens to synthesize vitamin K2 in the egg yolk. It also increases vitamin E levels compared to indoor-only chickens.
18. **The systemic trap for farmers.** The current agricultural system has taken 80 years to build, making it difficult for individual farmers to change their practices. Most farmers use the same grain-based feeds because they are the only ones abundantly available.
19. **Fatty acid transfer.** The types of fats a chicken eats are directly deposited into the egg it produces. This means "factory" fats like linoleic acid end up in the human diet through these animal products.
20. **Passing proteins into yolks.** Soy proteins and corn byproducts can pass directly from the feed into the egg yolk. For sensitive individuals, these passed-through proteins can cause allergic reactions.

III. The Problem with Eggs and PUFAs

21. **Linoleic acid and gut health.** Research suggests that linoleic acid can directly disrupt the gut lining and structures like the villi. This disruption can lead to a "leaky gut," causing various digestive issues.
22. **Phytoestrogen transfer.** Soy-fed chickens produce eggs with high levels of phytoestrogens in the yolk. Low-soy or soy-free eggs contain almost none of these endocrine-disrupting compounds.
23. **Allergens in the yolk.** Some people who believe they are allergic to eggs may actually be reacting to the soy proteins passed into the yolk from the feed. Removing soy from the bird's diet often makes the eggs digestible for these people.
24. **Variable nutritional profiles.** Two eggs that look identical can be vastly different in terms of digestibility and nutritional baggage. What the animal was doing and eating dictates the quality of what we absorb.
25. **Estrogen signaling disruption.** Phytoestrogens in soy disrupt estrogen signaling, which is involved in vital processes like gut signaling. This is established biology, not an "internet myth".
26. **The "Heart Healthy" myth.** Mainstream nutrition often promotes PUFAs as heart-healthy while demonizing saturated fats. This narrative has led to a food system that prioritizes increasing phytoestrogen and PUFA exposure.
27. **The "Low P" Standard.** Nourish Food Club uses a standard to minimize "baggage" in food, specifically PUFAs, Phytoestrogens, and Pesticides. These three "Ps" are the primary downsides associated with soy-based agriculture.
28. **Pesticide baggage.** Non-organic soy is heavily sprayed with pesticides, introducing toxic chemicals into the animal products we eat. Even organic soy is naturally high in PUFAs and phytoestrogens.
29. **Resolving chronic symptoms.** Switching to low-PUFA animal products has helped customers resolve issues like severe acne, bloating, and rashes. These improvements are directly linked to the livestock's cleaner diet.
30. **Soy exports and livestock.** Most soy grown today is not for direct human consumption but is instead exported or fed to livestock. This makes soy the foundation of the modern animal-based food system.

IV. Soy’s Industrial and Wartime History

31. **Soy was originally for paint.** Because it is high in PUFAs, soybean oil oxidizes easily, making it a great base for paint and varnishes. It was only marketed as food after petroleum-based paints replaced it.

32. **Post-war chemical repurposing.** After World War II, manufacturing plants for chemical weapons were repurposed to create agricultural pesticides. This shift marked the beginning of modern chemical-based farming.
33. **Weapons of war as pesticides.** Chemicals developed to kill people in war were found to be effective at killing agricultural pests. This led to the emergence of large agrochemical companies like Monsanto.
34. **GMO resilience and volume.** Genetically modified crops were developed specifically to survive high doses of chemicals. This allowed for the mass production of resilient but chemically intensive crops like soybeans.
35. **The demonization of saturated fats.** The food industry capitalized on the fear of saturated fats to promote polyunsaturated soy oils as "heart-healthy". This changed the fat profile of chickens and pigs across the country.
36. **Softening of animal fat.** Researchers noticed that feeding pigs soy made their fat softer, a physical sign of it becoming more unsaturated. This was initially viewed as a positive advancement in food science.
37. **Faster fattening.** PUFAs help animals fatten up much quicker, which increases the bottom line for industrial farmers. This same biological mechanism for rapid weight gain applies to humans.
38. **Monogastric similarities.** Chickens and pigs are monogastric like humans, meaning they cannot live on grass alone and require concentrated protein sources like soy. This makes their tissue composition more sensitive to feed changes than cows.
39. **Ruminant efficiency.** Cows have multiple stomachs that allow them to create protein and healthy fats from grass alone. This makes ruminant meat a naturally more stable food source than conventionally fed poultry or pork.
40. **Institutional pressure on farmers.** Many farmers cannot get crop insurance unless they grow specific subsidized crops like soy and corn. This embeds the soy system into the very structure of agricultural business.

V. Metabolism and Tissue Composition

41. **Epigenetic consequences.** The types of fats consumed by previous generations can epigenetically impact the metabolic rates of their descendants. We are now seeing the long-term results of a multi-generational shift in fat quality.
42. **Declining body temperatures.** Scientific data shows a documented decline in average human body temperature as metabolic rates slow down. This is a sign of lower energy production at the cellular level.
43. **Changing human "Pie Charts."** Modern humans have significantly more polyunsaturated fat and less saturated fat in their tissues than humans in the early 1900s. We are essentially becoming a different species in terms of fatty acid composition.
44. **Tissue half-life.** It takes many months, or even several years, for the fatty acid composition of human tissue to fully reflect dietary changes. This means health improvements from a low-PUFA diet take time to manifest.
45. **BMR and PUFAs.** There is a direct relationship between high tissue PUFA content and a lowered basal metabolic rate (BMR). Increasing PUFA consumption makes the body burn energy more slowly.
46. **Hibernation parallels.** In nature, squirrels eat PUFA-rich nuts to slow their metabolism and enter hibernation. Humans eating high-PUFA diets may be inadvertently triggering a similar metabolic slowdown.
47. **Inefficient energy production.** PUFAs encourage glycolytic metabolism (fermentation) rather than efficient oxidative phosphorylation. This results in lower ATP yield and uses more oxygen.
48. **Weight gain at lower calories.** Because BMR has declined, many people gain weight more easily even if they exercise and eat moderate calories. Their tissues are literally built from different, less efficient fats.
49. **Storing fuel as fat.** A high metabolic rate generates heat (high body temperature), while a low metabolic rate stores fuel as fat. The shift toward PUFAs has pushed many into chronic fat-storage mode.
50. **USDA data limitations.** Most nutrition labels for eggs are based on outdated database numbers that do not account for modern changes in feed. This makes it impossible for consumers to know the actual fatty acid profile from a standard label.

VI. Egg Quality and Feed Byproducts

51. **Phytonutrients in yolks.** Pasture-raised chickens consume foliage that provides "phytonutrients," which have anti-inflammatory and anti-cancer properties. These nutrients are absent in chickens kept indoors and fed only grain.
52. **Dramatic linoleic acid differences.** Nourish Food Club eggs contain 0.9g of linoleic acid, while standard organic pasture-raised eggs contain up to 3.9g. This represents a nearly four-fold difference in inflammatory fat content.
53. **Canola oil in two eggs.** Consuming two standard store-bought eggs can provide as much PUFA as a tablespoon of canola oil. For those eating many eggs a day, this PUFA load adds up significantly.
54. **Unstable bonds.** PUFAs have double bonds that make them unstable and prone to oxidation when exposed to heat. Cooking conventional eggs at high temperatures can create toxic lipid oxidation byproducts.
55. **Copy-paste nutrition facts.** Many egg brands simply use generic nutrition facts from an online database rather than testing their own specific product. This "commodity" approach hides the actual quality of the eggs.
56. **Yolk color fans.** The feed industry uses "yolk color fans" to let producers choose exactly what shade of orange they want their yolks to be. Additives in the feed can manipulate the color to make the eggs look "pasture-raised" even if they aren't.
57. **Deceptive color.** A bright orange yolk does not guarantee a healthy fatty acid profile. While natural color from marigolds can be healthy, synthetic additives make color a "useless metric" for consumers.
58. **Dried Distiller Grains (DDGS).** A major byproduct of the ethanol fuel industry, DDGS is a concentrated source of linoleic acid now commonly fed to livestock. It is the leftover fat, protein, and minerals from corn after the starch is removed.
59. **Industrial progress vs. biology.** Human and animal bodies did not evolve to extract nutrition from the concentrated, "Frankenstein" food matrices produced by industrial processes. This leads to poor nutrition absorption and metabolic stress.
60. **Artificial Vitamin E.** Feed producers add synthetic Vitamin E to prevent PUFA oxidation in feed, but it is often used up before the animal even eats it. This means oxidation occurs inside the chicken's body instead.

VII. The Toxic Reality of Glyphosate

61. **The Shikimate pathway.** Glyphosate is marketed as safe because it targets a pathway (Shikimate) that human cells do not have. However, this pathway *is* present in the bacteria that make up our gut microbiome.
62. **Gut dysbiosis.** Glyphosate exposure can kill beneficial gut bacteria while allowing pathogenic bacteria to thrive, leading to dysbiosis. This directly impacts human health despite the "safe" narrative.
63. **Toxic metabolites.** Even if the Shikimate pathway were irrelevant, glyphosate breaks down into metabolites that are toxic and cause inflammation in animal brains. There is no rational argument for its total safety.
64. **Suppressed safety data.** A key 25-year-old paper used by regulators to prove glyphosate’s safety was recently redacted for suppressing factual information. This flawed data has set agricultural policy for decades.
65. **Electron transport chain inhibition.** Glyphosate has been shown to inhibit critical complexes in the mitochondria, lowering cellular energy production. This contributes to fatigue and metabolic dysfunction.
66. **Unfinished endocrine testing.** A government project started in the 1990s to test the endocrine-disrupting effects of pesticides remains unfinished 30 years later. Chemicals continue to be released into the food system without adequate testing.
67. **Corporate seed control.** Companies like Bayer-Monsanto own the proprietary seeds engineered to be resistant to glyphosate. This forces farmers to use their chemicals to grow their crops effectively.
68. **Fighting biology with chemistry.** We are currently trying to solve biological farming problems with increasingly toxic chemicals, which only creates "super weeds". Humans have become the "test subjects" for this chemical agriculture.
69. **Glyphosate in eggs.** Pesticides sprayed on soy are fed to chickens and end up in their eggs, sometimes at levels higher than the EPA allows. This is true for both conventional and some organic eggs.
70. **Brain inflammation.** In rodent studies, toxic metabolites of glyphosate were found in the brain weeks after exposure had ended. This suggests long-term neuroinflammatory effects in humans.

VIII. Nutrient Deficiencies and Compounding Effects

71. **The Choline requirement.** The body needs choline to clear the toxic metabolites of glyphosate from the brain. Because many people have moved to plant-based diets, they are often deficient in choline, which primarily comes from animal products.
72. **A "horrible loop."** Society has created a loop where people are exposed to toxins while being simultaneously deprived of the specific nutrients needed to detoxify them. This compounds the damage done to the metabolic system.
73. **Glyphosate as a chelator.** Glyphosate sticks to essential minerals like magnesium, zinc, and calcium, preventing the body from absorbing them. This starves the body of the co-factors needed for energy production.
74. **Lowered fertility.** Glyphosate exposure has been shown to lower energy production in human sperm cells and decrease sperm motility. This is part of a broader trend of rising infertility linked to the food system.
75. **Lipogenesis and fat creation.** Pesticides and PUFAs work together to turn on enzymes that increase fat storage and lower fuel utilization. This "feed-forward cycle" makes it nearly impossible for some to lose weight.
76. **Fats become cell structures.** Unlike carbohydrates, which are burned for energy, the fats we eat become the literal structural components of our cell membranes. Fat quality is the most important factor in long-term metabolic health.
77. **Rising chronic disease.** Obesity, infertility, and chronic disease rates are all climbing as fat quality in the food system declines. The current industrial food system is fundamentally failing human health.
78. **Infertility in livestock.** Sheep and goats that eat high-phytoestrogen plants like clover can become completely infertile. This serves as a warning for the high levels of soy and flax consumed by humans today.
79. **Unprecedented phytoestrogen levels.** Modern humans are consuming phytoestrogens at levels that were never seen in traditional diets. These compounds compound with other endocrine disruptors to mix up hormone signaling.
80. **Flax and paint.** Like soy, flax was traditionally used as a fiber for clothes or an oil for paint, not as a primary health food. Its high phytoestrogen content may make it dangerous for regular consumption.

IX. The Obesogenic Nature of Seed Oils

81. **The most obesogenic macronutrient.** Linoleic acid is more effective at making animals fat than either sugar or saturated fat. It is used specifically in farming to "fatten up" livestock as quickly as possible.
82. **Heart attacks in "healthy" chickens.** Conventional chickens fatten so quickly on "heart-healthy" PUFAs that they will die of heart attacks if they aren't butchered by 7 weeks. This demonstrates the extreme metabolic stress caused by these fats.
83. **Hidden costs of meat.** The low price of conventional meat is only possible because of government subsidies for the soy and corn used as feed. This makes it difficult for small, regenerative farmers to compete on price.
84. **Obese yet malnourished.** It is possible to be overweight while being internally malnourished. Animals fed soybean oil were found to be deficient in Vitamin B in their livers despite being fat.
85. **Lactic acid buildup.** High PUFA diets increase fermentation, which creates lactic acid. The body must then use up its supply of B vitamins to clear this excess lactic acid, leading to deficiency.
86. **Nourishment over mass.** Eating higher-quality, nutrient-dense food can allow a person to eat less total mass while being more nourished. This shifts the focus from calories to internal nutrient availability.
87. **The cost of supplements.** Many people spend significant money on supplements to fix issues caused by poor-quality food. Investing in high-quality fats like low-PUFA eggs can often lower overall health costs by reducing the need for supplements.
88. **The Logistics of Fresh Food.** Shipping fragile, high-quality eggs directly to consumers is difficult but necessary to provide access to those in "food deserts". Modern consumers expect convenience, which small farms are trying to provide through direct delivery.

89. **Breast milk changes.** The fatty acid composition of mother's breast milk has changed over time to reflect the increase in dietary PUFAs. This impacts the metabolic health of infants from the very start of life.
90. **"PUFA overloaded" children.** Many modern adults were born "PUFA overloaded" due to their parents' diets and the prevalence of seed oils in baby formulas and childhood snacks. This can lead to a downregulated metabolism from a young age.

X. Solutions and Traditional Dairy

91. **Returning to traditional foods.** Resolving chronic health issues often requires a return to traditional fats like tallow and butter. This "reaturation" of the body helps restore the metabolic rate.
92. **Counting fat quality.** In popular dieting trends like "If It Fits Your Macros" (IIFYM), people often ignore fat quality, treating all fats as equal. This is a mistake, as polyunsaturated fats behave very differently in the body than saturated fats.
93. **PUFA Half-life.** The half-life of linoleic acid in human tissue is approximately 600 days. This means it takes years of clean eating to fully "detox" the body's fat stores.
94. **The "PUFA-ing" of dairy.** The industry is now researching ways to make dairy fat more unsaturated by feeding cows oil seeds and using "rumen bypass" methods. This is driven by the false belief that saturated dairy fat is unhealthy.
95. **Raw milk's "miracle molecule."** Raw milk contains lactoferrin, an anti-inflammatory and antimicrobial protein that is destroyed by pasteurization. It also helps regulate iron, which is over-fortified in many modern grains.
96. **Enzyme activity.** Raw dairy provides living enzymes that help people with lowered metabolic rates digest food more effectively. Enzyme production in the body is temperature-dependent and drops significantly with even a small decrease in body temperature.
97. **Raw milk as a probiotic.** Raw dairy and cheese contain beneficial bacteria that can survive digestion and colonize the gut. This can help heal "dysbiosis" in ways that processed probiotic supplements often cannot.
98. **The "Milk Cure."** In the early 1900s, doctors used raw milk to treat chronic illnesses, a practice that is lost in the modern sterilized food system. High-quality production is required to make raw milk safe, which naturally increases the food's overall quality.
99. **Supporting small farms.** The number of small farms is declining every year; supporting them is the only way to maintain access to traditional, high-quality fats. Consumer spending is the most effective tool for bottom-up change.
100. **Compounding conscious choices.** You don't have to be a "perfect" consumer; making one change, like sourcing better eggs or milk, can have significant long-term health benefits. Over time, these individual efforts can restore the health of the entire food system.